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REMARKS

Claims 1-20 remain in the application including independent claims 1 and 10. New dependent claim 21 has been added.

Claims 1 and 10 stand rejected under 35 U.S.C. 102(b) as being anticipated by newly cited Mizoguchi. In order to anticipate a claim, the reference must teach all of the features set forth in the claim. For several reasons, Mizoguchi does not anticipate claims 1 and 10.

Claim 1 includes the step of producing single phase alternating current from a direct current source with pulse width modulation. Mizoguchi does not produce single phase alternating current from a direct current source with pulse width modulation. Mizoguchi teaches pulse width modulation control for an interphase reactor multiplex inverter in which the output terminals from two inverters are connected with each other through interphase reactors so as to provide parallel multiplex three-phase output from the midpoints of the interphase reactors.

Claim 1 also requires splitting the single phase alternating current into a plurality of separate paths including at least a first path, a second path, and a third path, and shifting the phase of the alternating current on the second path to be different than the phase of the first path and shifting the phase of the alternating current on the third path to be different than the phase of the first or second paths to create three-phase alternating current power. Mizoguchi teaches parallel generation of three phase output, which is very different than Applicant's configuration.

Finally, claim 1 also requires operating vehicle systems with the three-phase alternating current power. Mizoguchi does not teach the use of three phase output to operate multiple

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vehicle systems. Mizoguchi does not even mention a single vehicle system, let alone discussing operation of multiple vehicle systems.

Claim 10 includes the features of a direct current source and a single pulse width modulation generator for converting direct current to alternating current to provide one power supply path of alternating current having a first phase. Mizoguchi certainly does not teach this configuration. As discussed above, Mizoguchi teaches the generation of two, not one, power paths. Further, Mizoguchi teaches the use of multiple pulse width modulation generators, and does not teach the use of a single pulse width modulation generator.

Claim 10 also requires a splitter for splitting the one power supply path of alternating current into a plurality of power supply paths including at least a first power supply path, a second power supply path, and a third power supply path. As discussed above, Mizoguchi teaches generation of a parallel multiplex three-phase output from multiple reactors, and does not teach splitting only one power path into first, second, and third power paths.

Claim 10 also requires a plurality of induction motors for operating multiple vehicle systems via a three-phase alternating current power comprised of the first, second, and third paths. Mizoguchi does not disclose the use of induction motors. Further, Mizoguchi certainly does not teach the use of induction motors to operate multiple vehicle systems. Mizoguchi does not even mention a single vehicle system, let alone discussing operation of multiple vehicle systems.

For the many reasons set forth above, Mizoguchi does not anticipate claims 1 and 10 and the rejection must be withdrawn.

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Claims 1 and 10 stand rejected under 35 U.S.C. 102(e) as being anticipated by Yamanaka 6058032. The examiner first asserted this reference against claims 10-13 under 35 U.S.C. 102(b) in the first official action. The examiner withdrew the rejection in the second official action and is now re-asserting this reference under 35 U.S.C. 102(e) against claim 10 in addition to citing the reference for the first time against claim 1.

Claim 1 requires splitting the single phase alternating current into a plurality of separate paths including at least a first path, a second path, and a third path, and shifting the phase of the alternating current on the second path to be different than the phase of the first path and shifting the phase of the alternating current on the third path to be different than the phase first or second paths to create three-phase alternating current power. Yamanaka does not teach this configuration.

Claim 10 includes the features of a direct current source and a single pulse width modulation generator for converting direct current to alternating current to provide one power supply path of alternating current having a first phase. Yamanaka certainly does not teach this configuration. Yamanaka teaches the use of multiple pulse width modulation generators, not a single pulse width modulation generator. Further, Yamanaka teaches generation of multiple power paths and does not teach to provide one power supply path.

Claim 10 also requires a splitter for splitting the one power supply path of alternating current into a plurality of power supply paths including at least a first power supply path, a second power supply path, and a third power supply path. As discussed above, Yamanaka teaches generation of multiple power paths, and does not teach splitting only one power path into first, second, and third power paths.

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Claim 10 also requires a plurality of induction motors for operating multiple vehicle systems via a three-phase alternating current power comprised of the first, second, and third paths from the one power supply path. Yamanaka does not disclose the use of a plurality of induction motors powered by one power supply path of three-phase alternating current.

For the many reasons set forth above, Yamanaka does not anticipate claims 1 and 10 and the rejection must be withdrawn.

Claims 1-6, 8, 10, 12-13, 16, and 19 stand rejected under 35 U.S.C. 103(a) as being unpatentable over newly cited Young in view of newly cited Mizoguchi. This rejection is improper for several reasons. First, Young is non-analogous art. Second, the examiner has failed to establish a *prima facie* case of obviousness. Third, the references, even if properly combined, do not disclose, suggest, or teach the claimed features. Each of these issues will be separately addressed below.

"In order to rely on a reference as a basis for rejection of an applicant's invention, the reference must either be in the field of applicant's endeavor or, if not, then be reasonably pertinent to the particular problem with which the inventor was concerned." In re Oetiker, 977 F.2d 1443, 1446, 24 USPQ2d 1443, 1445 (Fed. Cir. 1992). The Young reference has no relevance to Applicant's invention.

The Young reference is not in Applicant's field and is not reasonably pertinent to the particular problem that the Applicant has solved. Young is directed to commercial power plant technology for utility companies, and does not concern vehicles. Commercial power plant technology, which concerns high voltage power (in excess of 10,000 Volts) does not include any

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pertinent information that would help Applicant solve problems relating to 12-42 volt power supplies in vehicles.

The examiner argues that "Young discloses claimed invention a method for converting single phase alternating current to multiple phase alternating current for simultaneously powering multiple vehicle systems." Applicant disagrees with this characterization of Young. First of all, Young is not in the field of Applicant's endeavor. Applicant is designer and manufacturer of components for vehicles, which has nothing to do with Young's field of commercial utility power supplies.

Second, Young is not reasonably pertinent to Applicant's particular problem. The Young reference is directed toward solving problems related to commercially-available power supplies in rural areas. Specifically, Young addresses a need for a utility system that allows industrial sized three-phase motors to be started and run from a single-phase commercial power line. Applicant's invention is directed to solving problems related to a demand for increased power supply in a vehicle to run multiple electrically operated vehicle systems such as power windows and power door locks. To meet the demand for an increased power supply, the automotive industry is moving from a traditional 12 volt system to a thirty-six volt (36V) / forty-two volt (42V) alternator system. As this transition is made, hybrid systems that can support both voltage systems are needed. Applicant's problem has nothing to do with the problems described in Young. Thus, Applicant would never look to the field of high voltage commercial utility technology to solve problems related to low 36 voltage vehicle power supplies. Thus, the Young is non-analogous art to Applicant's invention.

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The examiner has also failed to establish a *prima facie* case of obviousness. To establish a *prima facie* case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation to modify the base reference or combine the reference teachings. Second, there must be reasonable expectation of success. Third, the prior art references must teach or suggest all of the claim limitations. The examiner has not satisfied any of these criteria.

There is no motivation or suggestion to modify Young with the teachings of Mizoguchi. Further, the examiner has not provided *any* explanation of the motivation or suggestion that would result in the modification of Young to arrive at the subject matter of claims 1-6, 8, 10, 12-13 and 16-19.

The examiner argues that Young discloses a method of converting single phase alternating current to multiple phase alternating current "for simultaneously powering multiple vehicle systems . . ." This is not an accurate characterization of Young. Young is directed to commercial power plant technology, not vehicles. Young provides an apparatus for starting and running three-phase motors from a single phase commercial power line, such as that found in rural and residential areas. See column 1, lines 13-35.

Mizoguchi is directed toward solving problems relating to pulse width modulation control for an interphase reactor multiplex inverter in which the output terminals from two inverters are connected with each other through interphase reactors so as to provide parallel multiplex three-phase output from the midpoints of the interphase reactors. Thus, the power distribution systems in each of these references are very different from each other and have very diverse operational requirements. There is simply no teaching or suggestion to modify Young with Mizoguchi. The examiner has pointed to no teaching in Mizoguchi of any particular benefit

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derived from the Mizoguchi system that would be applicable to Young. In addition, there is nothing in Young that would have led one of ordinary skill in the art to believe that the Young power distribution system was in any way deficient for Young's purposes or was in need of modification. One of ordinary skill in the art would have found no reason, suggestion, or incentive to combine these references to arrive at the claimed subject matter.

Also, there is no reasonable expectation of success for the modification. The examiner admits that Young does not teach producing single phase AC from a DC source with PWM and relies on Mizoguchi to teach this. If the proposed modification or combination of the prior art would change the principle of operation of the prior art invention being modified, then the teachings of the references are not sufficient to render the claims *prima facie* obvious. In re Ratti, 270 F.2d 810, 123 USPQ 349 (CCPA 1959). Young teaches how to run a three-phase motor from a single phase commercial power line. To modify Young (the base reference that is directed to commercial power line technology) with Mizoguchi (the modifying reference that provides parallel multiplex three-phase output from the midpoints of two interphase reactors) as argued by the examiner, would significantly change the principle of operation of Young. Thus, the rejection under 35 U.S.C. 103(a) is improper and Applicant requests that it be withdrawn.

Finally, the references taken together, do not disclose, suggest, or teach all of the claimed features. Claim 1 includes the step of producing single phase alternating current from a direct current source with pulse width modulation. The examiner admits that Young does not teach this feature. Mizoguchi also does not teach the production of single phase alternating current from a direct current source with pulse width modulation. Mizoguchi teaches pulse width modulation control for an interphase reactor multiplex inverter in which the output terminals from two

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inverters are connected with each other through interphase reactors so as to provide parallel multiplex three-phase output from the midpoints of the interphase reactors.

Claim 1 also requires splitting the single phase alternating current into a plurality of separate paths including at least a first path, a second path, and a third path, and shifting the phase of the alternating current on the second path to be different than the phase of the first path and shifting the phase of the alternating current on the third path to be different than the phase of the first or second paths to create three-phase alternating current power. Mizoguchi teaches parallel generation of three phase output from multiple pulse width modulation generators, which is very different than Applicant's configuration.

Finally, claim 1 also requires operating vehicle systems with the three-phase alternating current power. Young does not disclose, suggest, or teach operating any type of vehicle system. Mizoguchi also does not teach the use of three phase output to operate multiple vehicle systems.

Claim 10 includes the features of a direct current source and a single pulse width modulation generator for converting direct current to alternating current to provide one power supply path of alternating current having a first phase. The examiner admits that Young does not teach this feature. Mizoguchi certainly does not teach this feature. As discussed above, Mizoguchi teaches the generation of two, not one, power paths. Further, Mizoguchi teaches the use of multiple pulse width modulation generators, and does not teach the use of a single pulse width modulation generator.

Claim 10 also requires a splitter for splitting the one power supply path of alternating current into a plurality of power supply paths including at least a first power supply path, a

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second power supply path, and a third power supply path. As discussed above, Mizoguchi teaches generation of a parallel multiplex three-phase output from multiple reactors, and does not teach splitting only one power path into first, second, and third power paths.

Claim 10 also requires a plurality of induction motors for operating multiple vehicle systems via a three-phase alternating current power comprised of the first, second, and third paths. Young does not disclose, suggest, or teach the use of multiple induction motors for operating vehicle systems. Mizoguchi also does not teach the use of induction motors. Further, Mizoguchi certainly does not teach the use of induction motors to operate multiple vehicle systems.

Further, the examiner has not provided any explanation of how the combined references teach all of the features set forth in claim 1-6, 8, 10, 12-13, 16, and 19. The examiner's explanation is insufficient to support the examiner's argument that Young and Mizoguchi render these claims obvious. If the examiner upholds this rejection, Applicant respectfully requests a more detailed explanation of examiner's arguments for all of the claims rejected under this combination of references.

The examiner apparently has also rejected claims 7, 9, 11, 14-15, 17-18 and 20 under 35 U.S.C. 103(a) based on the combination of Young and Mizoguchi. The examiner admits that neither reference discloses the claimed features set forth in claims 7, 9, 11, 14-15, 17-18 and 20 but argues that it would have been "an obvious matter of design choice to utilize vehicle battery or thirty volt power or powering vehicle devices, since such a modification would have involved a mere change in the size of a component or utilize different suitable component is generally recognized as being within the level of ordinary skill in the art," citing In re Rosc, 105 USPQ

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237 (CCPA 1955). The reasoning set forth in Rose is not applicable to the instant application. Rose, refers solely to dimensional characteristics of a component, e.g. making a package wider, longer, etc. The features set forth in claims 7, 9, 11, 14-15, 17-18 and 20 are not merely "dimensional" changes and instead involve unique structural and operational characteristics and features that simply are not taught by either Young or Mizoguchi. Further, it is not obvious to utilize 36/42 volt power on a vehicle because, as discussed in the background, vehicles have traditionally only used 12 volt power.

The examiner further argues that "where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art," citing In re Aller, 105 USPQ 233. First, Applicant disagrees with examiner's characterization that the general conditions of all of the claims are disclosed in the prior art. The examiner has not indicated where any of the features of claims 1-20 are taught in the prior art. This is especially true in light of claims 2-9 and 11-20, which the examiner has completely ignored. Second, the reasoning set forth in Aller, as well as the examiner's argument, have nothing to do with Applicant's claims. Applicant requests further explanation as to the relevance of "workable ranges" to the subject claims.

Applicant asserts that all claims are allowable over the cited prior art and requests an indication of such. The Commissioner is authorized to charge Deposit Account No. 50-1482 in the name of Carlson, Gaskey & Olds for one additional dependent claim. Applicant believes that

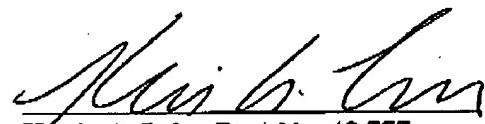
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no additional claim fees are due, however, if additional fees are required the Commissioner is authorized to charge Deposit Account No. 50-1482 in the name of Carlson, Gaskey & Olds.

Respectfully submitted,

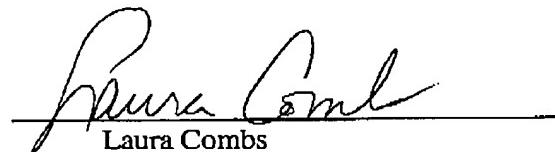


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CERTIFICATE OF TRANSMISSION UNDER 37 CFR 1.8

I hereby certify that this correspondence is being facsimile transmitted to the United States Patent and Trademark Office, fax number (703) 872-9318, on August 27, 2003.

  
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